

The embodiments of the invention in which an exclusive property or privilege is claimed are as follows:

1. A vehicular exterior rearview mirror assembly comprising:
a case defined by a wall;
a reflective element assembly housed in said case and supported on a reflective element support; and
5 at least one electronic control module supported in said case independently of said reflective element assembly.

2. A vehicular exterior rearview mirror assembly according to Claim 1, further including at least one electrical component electrically interconnected with said electronic control module.

3. A vehicular exterior rearview mirror assembly according to Claim 2, wherein said reflective element assembly includes a reflective element, said reflective element including said electrical component.

4. A vehicular exterior rearview mirror assembly according to Claim 3, wherein said reflective element assembly includes an electro-optic element.

5. A vehicular exterior rearview mirror assembly according to Claim 4, wherein said reflective element comprises an electrochromic element.

6. A vehicular exterior rearview mirror assembly according to Claim 3, wherein said electrical component is an electro-optic cell, and said electronic control module produces a drive signal for establishing a partial reflectance level in reflective element.

7. A vehicular exterior rearview mirror assembly according to Claim 6, wherein said electrical component includes at least one light sensor attached to a rear surface of said reflective element for providing an input to said electronic control module such that said electronic control module produces said drive signal as a function of light sensed by said at least one light sensor.

8. A vehicular exterior rearview mirror assembly according to Claim 2, wherein said electrical component comprises a heater pad for heating the reflective element.

9. A vehicular exterior rearview mirror assembly according to Claim 2, wherein said electrical component comprises an ultrasonic transducer.

10. A vehicular exterior rearview mirror assembly according to Claim 2, wherein said electrical component comprises a mirror actuator assembly cooperating with said reflective element assembly to adjust the orientation of said reflective element assembly.

11. A vehicular exterior rearview mirror assembly according to Claim 1, said wall of said case including inner surface, and said electronic control module is supported by said inner surface.

12. A vehicular exterior rearview mirror assembly according to Claim 11, wherein said electronic control module is enclosed by a housing supported on said inner surface of said case.

13. A vehicular exterior rearview mirror assembly according to Claim 12, wherein said case includes an exterior surface, said housing including a surface flush with said exterior surface of said case.

14. A vehicular exterior rearview mirror assembly according to Claim 12, wherein said case includes an aperture, said housing adapted to insert into said aperture.

15. A vehicular exterior rearview mirror assembly according to Claim 1, wherein said electronic control module includes one of a GPS receiver and a GPS antenna.

16. A vehicular exterior rearview mirror assembly according to Claim 1, wherein said electronic control module includes an antenna.

17. A vehicular exterior rearview mirror assembly according to Claim 16, wherein said antenna comprises a GPS antenna.

18. A vehicular exterior rearview mirror assembly according to Claim 16, wherein said antenna comprises a cellular phone antenna.

19. A vehicular exterior rearview mirror assembly according to Claim 16, wherein said antenna comprises a garage door opener antenna.

20. A vehicle exterior rearview mirror assembly according to claim 1, wherein said case includes a back can member, said electronic control module is supported by said back can member.

21. A vehicular exterior rearview mirror assembly according to Claim 1, wherein said reflective element support comprises a mounting bracket.

22. A vehicular exterior rearview mirror assembly according to Claim 1, wherein said reflective element support comprises a mirror actuator assembly.

23. A vehicular exterior rearview mirror assembly according to Claim 1, wherein said reflective element support comprises an actuator support member.

24. A vehicular exterior rearview mirror assembly comprising:
a reflective element;
an electrical component mounted to said reflective element;
a body housing said reflective element and said electrical component, said body having an
5 inner surface; and
an electronic control module supported by said body independently of said reflective element
and electrically interconnected with said electrical component.

25. A vehicular exterior rearview mirror assembly according to Claim 24, said electronic control module enclosed by a housing supported by said inner surface.

26. A vehicular exterior rearview mirror assembly according to Claim 25, said housing including a sealing member for sealing said housing against said inner surface of said body.

27. A vehicular exterior rearview mirror assembly according to Claim 25, said inner surface including a hook shaped member for supporting said housing, said housing including a corresponding hook shaped flange engaging said hook shaped member on said inner surface.

28. A vehicular exterior rearview mirror assembly according to Claim 27, said inner surface including a threaded boss, said housing further including a fastener engaging said threaded boss.

29. A vehicular exterior rearview mirror assembly according to Claim 25, wherein said body includes an exterior surface and an opening, said housing inserting into said opening and including an exterior surface aligning with said exterior surface of said body.

30. A vehicular exterior rearview mirror assembly according to Claim 29, wherein said electronic control module includes at least one antenna selected from the group of a GPS antenna, a cellular phone antenna, and a garage door opener antenna.

31. A vehicular exterior rearview mirror assembly according to Claim 29, wherein said module includes a GPS receiver.

32. A vehicular exterior rearview mirror assembly according to Claim 31, wherein said module includes at least one antenna.

33. A vehicular exterior rearview mirror assembly according to Claim 30, wherein said reflective element comprises a variable reflectance device.

34. A vehicular exterior rearview mirror assembly according to Claim 33, wherein said variable reflectance device includes an electro-optic cell defining said electrical component, and said electronic control module produces a drive signal for establishing a partial reflectance level in said reflective element.

35. A vehicular exterior rearview mirror assembly according to Claim 34, wherein said electrical component includes at least one light sensor fixed to a rear surface of said variable reflectance device for providing an input to said electronic control module such that said electronic

control module produces said drive signal as a function of light sensed by said at least one light
5 sensor.

36. A vehicular exterior rearview mirror assembly according to Claim 24, wherein said
electrical component comprises a mirror actuator assembly cooperating with said reflective element
to adjust the orientation of said reflective element, said electronic control module supported by said
inner surface independently of said mirror actuator assembly and in electrical communication with
5 said mirror actuator assembly.

37. A vehicular exterior rearview mirror assembly according to Claim 24, wherein said
electrical component comprises a heater pad for heating said reflective element.

38. A vehicular exterior rearview mirror assembly according to Claim 24, wherein said
electrical component comprises an ultrasonic transducer for removing raindrops from said reflective
element.

39. A vehicular exterior rearview mirror assembly according to Claim 24, further
including an actuator assembly and an actuator support member, said actuator support member
supported by said case, said actuator assembly supporting said reflective element, and said electronic
control module supported on said actuator support member.

40. A vehicular exterior rearview mirror assembly according to Claim 39, wherein said
mounting bracket includes an enclosure, said enclosure supporting said electronic control module.

41. A vehicular rearview mirror assembly comprising:
a case having a wall;
a reflective element housed in said case; and
an electronic control module supported by a wall of said case, said electronic control module
5 including an antenna for transmitting electromagnetic signals outside of the vehicle, for receiving
electromagnetic signals originating outside of the vehicle, or both.

42. A vehicle rearview mirror assembly according to claim 41, further comprising a
housing mounted to said case, said electronic control module is supported in said housing.

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43. A vehicular rearview mirror assembly according to Claim 42, wherein said housing comprises a modular insert mounted in said wall of said case.

44. A vehicular rearview mirror assembly according to Claim 43, wherein said wall of said case includes an opening receiving said modular insert.

45. A vehicular rearview mirror assembly according to Claim 44, wherein said case includes an exterior surface and said modular insert includes an exterior surface aligned flush with said exterior surface of said case.

46. A vehicular rearview mirror assembly according to Claim 45, wherein said housing includes at least one opening through which said electronic control module communicates with at least one electrical component supported by said reflective mirror element, said electronic control module including at least one lead extending through said opening in said housing for connecting to an external power supply.

47. A vehicular rearview mirror assembly according to Claim 42, further comprising an electrical component supported by said reflective mirror element wherein said electronic control module includes at least one electronic device for communicating with said electrical component.

48. A vehicular rearview mirror assembly according to Claim 47, wherein said antenna is selected from the group of a GPS antenna, a cellular phone antenna, and a garage door opener antenna.

49. A vehicular rearview mirror assembly according to Claim 47, wherein said module includes a GPS receiver.

50. A vehicular rearview mirror assembly according to Claim 49, wherein said antenna comprises a GPS antenna.

51. A vehicular rearview mirror assembly according to Claim 41, further comprising an electrical component housed in said case, said electrical component selected from the group of a

heater pad, an ultrasonic transducer for removing raindrops, a light sensor, an electro-optic mirror element, a blind spot detection system, a compass system, an intrusion detection system, a vehicle security light, a turn signal indicator, a keyless entry system, and a trainable garage door opener system.

52. A vehicular rearview mirror assembly according to Claim 41, wherein said case includes a removable back can member, said electronic control module supported by said back can member.

53. A vehicular rearview mirror assembly according to Claim 52, wherein said case includes a wall, said back can member adapted to cover said wall and removably secure to said wall, said wall including an opening through which said electronic control module electrically interconnects with an electrical component positioned in said case.

54. A cellular phone system comprising:
a mirror assembly including a mirror case and a reflective element housed in said case, said case being substantially electrically non-conducting; and
a cellular phone system receiver including a transmitting and receiving antenna, said cellular phone system receiver adapted to receive signals and transmit signals with said receiving antenna, wherein said antenna is positioned within said mirror case.

55. A cellular phone system according to Claim 54, wherein said mirror case further supports a modular housing, said antenna positioned within said modular housing.

56. A cellular phone system according to Claim 55, further comprising an electronic control module supported in said modular housing, said antenna mounted on said electronic control module in said modular housing.

57. A cellular phone system according to Claim 56, wherein said cellular phone system receiver is mounted on said electronic control module.

58. A cellular phone system according to Claim 55, wherein said antenna is integrally formed with said mirror case.

59. A cellular phone system according to Claim 54, wherein said antenna is removable from said mirror case for service or replacement.

60. A cellular phone system comprising:
an exterior mirror assembly including a case;
a reflective element support in said case; and

a cellular phone system receiver including a transmitting and receiving antenna and electrical leads coupled to said antenna, said cellular phone system receiver adapted to receive signals with said transmitting and receiving antenna and to convert said signal into audio signals, said receiving antenna positioned within said case.

61. A cellular phone system according to Claim 60, said case including a housing for supporting said antenna within said case.

62. A cellular phone system according to Claim 61, wherein said housing is removably attached to said case whereby said antenna can be removed for service or replacement.

63. A cellular phone system according to Claim 60, wherein said case includes an opening, said supported in a modular housing inserted and supported in said opening of said case.

64. A cellular phone system according to Claim 63, wherein said modular housing includes an exterior surface and said case includes an exterior surface, said housing mounted in said opening to align said exterior surface of said housing flush with said exterior surface of said case.

65. A cellular phone system according to Claim 60, wherein said case includes a first wall and a second wall, said first wall including an opening formed therein, said second wall overlaying said first wall and defining an outer surface of said case, said antenna supported on said second wall and extending into said opening of said first wall.

66. A cellular phone system according to Claim 65, wherein said antenna is supported on an electronic control module, said electronic control module positioned in said opening of said first wall.

67. A vehicular exterior rearview mirror assembly comprising:
a case defined by a wall, said case adapted for mounting said mirror assembly on a vehicle;
a member extending through case and supported by said wall of said case;
a reflective element assembly supported by said member and housed in said case; and
an electronic control module supported in said case independently of said reflective element assembly.

68. A vehicular exterior rearview mirror assembly according to Claim 67, wherein said electronic control module is supported on said member.

69. A vehicular exterior rearview mirror assembly according to Claim 67, wherein said member includes an enclosure, said enclosure supporting said electronic control module.

70. A vehicular exterior rearview mirror assembly according to Claim 68, further including an electrical component housed by said case.

71. A vehicular exterior rearview mirror assembly according to Claim 70, wherein said reflective element assembly includes said electrical component.

72. A vehicular exterior rearview mirror assembly according to Claim 67, further including a back can member supported on a back surface of said case.

73. A vehicular exterior rearview mirror assembly according to Claim 72, said electronic control module supported on said back can.